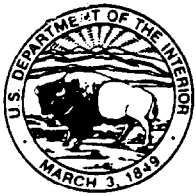


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LETTER REGARDING USGS REVIEW OF THE FINAL RFI INTERIM REPORT FOR SITE 11
FROM ABB ENVIRONMENTAL NSB KINGS BAY GA
3/2/1994
U S DEPARTMENT OF THE INTERIOR



United States Department of the Interior



GEOLOGICAL SURVEY
Water Resources Division
Peachtree Business Center, Suite 130
3039 Amwiler Road
Atlanta, Georgia 30360-2824

March 2, 1994

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Lieutenant Commander M.J. Patterson
Assistant Public Works Officer
Naval Submarine Base
1063 USS Tennessee Avenue
Kings Bay, Georgia 31547-2606

Dear Lieutenant Commander Patterson;

The USGS review has been completed on the final version of the "RFI Interim Report for Site 11" of ABB Environmental Services (ABB), dated December 1993, which was transmitted with your letter of February 9, 1994. The draft version of this report, dated August 1993, had already been reviewed, and comments resulting from that review also apply to this final report. A copy of the seven pages of review comments on the draft, and a copy of the October 15, 1993 cover letter sent to Ed Lohr of Southern Division Naval Facilities Engineering Command, transmitting these comments, are enclosed.

The only comment in the enclosure that does not apply to the final report is the first one about a typo error on page 1-1, paragraph 4; the error has since been corrected. The reasons none of the other USGS review comments were incorporated in the final report are unknown. Perhaps they were not received by ABB in time, or perhaps ABB had explanations for not using the suggested revisions. Any such explanations were not received by the USGS.

The USGS comments judged to be most important are in regard to loosely described terms "upgradient wells" and "downgradient wells," which were also addressed in the earlier review of the "Technical Memorandum Number 1" report by ABB. The comments in the enclosure apply to page 4-30 of the final RFI report.

The wells ABB interpret to be "upgradient" and "downgradient" should be clearly specified, and either substantiated by data shown on the water-table maps or explanations made as to why flow directions do not correspond to data shown on water-table maps. The statistical analysis of upgradient and downgradient water quality, described on page 4-30 of the final report, is not considered to be reasonable because some wells that are apparently interpreted to be upgradient on water-table maps are considered to be downgradient in the statistical analysis.

The two plots of specific conductance and total dissolved solids data for sampling trips 4, 5, and 6, and the comments regarding unusual values on the plots, were included in the October 1993 review because data from the simple field measurement of specific conductance are sometimes useful for indicating direction of ground-water flow. Since the October 1993 letter was sent, USGS plots were made of the ABB field measurements of pH and specific conductance for the first six sampling trips, and are also enclosed.

The pH and specific conductance values are unusually high for samples obtained at wells 11-5, 11-6, 11-7, and 11-9 during sampling trip number 4 (see enclosure). The statement is made in the fifth paragraph on page 4-1 of an earlier ABB report "RCRA Facility Investigation/Site Inspection Technical Memorandum No. 4, Volume I, Site 11, Old Camden County Landfill," dated December 1992, that "temperature measurements are not reported because of instrument malfunction and subsequent erroneous data." Are the unusually high values of pH and specific conductance described above due to lack of adjustment for temperature when these measurements were made? If so, future use of pH and specific conductance data from sampling trip 4 should either be discontinued or qualified.

The USGS hopes that this review is helpful to you. If you have any questions, please feel free to call me at 404-903-9100.

Sincerely,



Bud Zehner
Hydrologist

Enclosures

cc w/o enclosure: ✓ David Driggers
U.S. Navy, Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina